Application Serial No: 10/539,421
Responsive to the Office Action mailed on: December 9, 2008

IN THE SPECIFICATION

Amendments to the Specification:

Please amend the following at page 2, line 22-page 3, line 4 of the specification:

Blood is generally supplied to the glucose sensor by making an incision in the skin for bleeding and introducing the blood into the glucose sensor. ~~as follows. The user makes an incision in the skin to produce blood, and this blood is introduced into the glucose sensor.~~ With this method, it is preferable to sample as little blood as possible in order to make the blood sampling less of a burden to the user. Accordingly, various improvements have been studied in an effort to reduce the amount of specimen (see, for example, PCT Publication No. WO2000-509507 and US Laid-Open Patent Application 2002/0092612).

Please amend the following at page 7, lines 20-24 of the specification:

In ~~Chemical Formula~~ chemical formula 1, X is NH_3, a halogen ion, CN, pyridine, nicotinamide, or H_2O, but X is preferably NH_3 or a halogen ion. n+ in ~~Chemical Formula~~ chemical formula 1 is the valence of an oxidized Ru(III) complex determined by the type of X.

Please amend the following at page 11, lines 27-page 12, line 20 of the specification:

The glucose sensor 1 shown in FIGS. 1 to 3 is used by being installed in a concentration measurement device 2 (see FIG. 4), and comprises a cover 5 laid over a rectangular substrate 3 with a spacer 4 in between. In this glucose sensor 1, a reaction space 6, having a width W and a length L, is defined by the various elements 3 to 5. This reaction space 6 is defined as a pillar-shaped space having a rectangular cross section, moves the sample liquid introduced through an opening (introduction port) 61 by capillary force, and is able to hold the introduced sample liquid.

The spacer 4 serves to define the height H2 of the reaction space 6, that is, the distance from the upper surface 30 of the substrate 3 to the lower surface 5a of the cover 5. In this spacer 4 is formed a slit 41 that is open at its distal end. The slit 41 serves to

define the width of the reaction space 6, and the open part at the distal end of the slit 41 serves to constitute the introduction port 61 used to introduce the sample liquid into the interior of the reaction space 6.

Please amend the following at page 14, line 23-page 15, line 10 of the specification:

It is preferable to use a ruthenium compound as the mediator. A ruthenium complex is an example of a ruthenium compound. There are no particular restrictions on the type of ligands of the ruthenium complex as long as they function as an electron transport, but the complex is preferably contained in an oxidized state in the reagent portion 33. For instance, an oxidized compound expressed by the following chemical formula (1) ~~(2)~~ can be used.

$$[Ru(NH_3)_5X]^{n+} \cdots (1)\ \sout{(2)}$$

In ~~Chemical Formula 2~~ chemical formula 1, X is NH_3, a halogen ion, CN, pyridine, nicotinamide, or H_2O, but X is preferably NH_3 or a halogen ion. n+ in ~~Chemical Formula 2~~ chemical formula 1 is the valence of an oxidized Ru(III) complex determined by the type of X.

Please amend the following at page 22, line 25-page 23, line 18 of the specification:

In the case shown in FIG. 5A, when the facing distance H1 is large, the thickness of the electron release region 70 (the portion surrounded by the dotted line) is also large, so not ~~no~~ all of the non-diffused mediator is oxidized when voltage is applied. Therefore, the non-diffused mediator is consumed a specific amount at a time, and this causes a difference in the concentration of the reductive mediator between the electron release region 70 and the electron non-release region 71. Consequently, the diffused mediator spreads out above and to the sides of the electron release region 70. After this, the oxidation of the reductive mediator present in the electron release region 70 occurs concurrently with the spreading of the diffused mediator with respect to the electron release region 70. Therefore, when the facing distance H1 is large, the process can be broadly divided into an early phase of consumption of the non-diffused mediator, a middle phase of consumption of the non-diffused mediator and the diffused mediator, and a late phase of consumption of the [[-]]diffused mediator.

Please amend the following at page 26, lines 13-16 of the specification:

With this glucose sensor 1", the facing distance ~~H1"~~ H2' is defined as the distance between the upper surface 31c" of the working electrode 31" and the upper surface 32c" of the counter electrode 32".